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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,438	08/23/2001	Izhak Baharav	10003433-1	2579

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EXAMINER

MOE, AUNG SOE

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/938,438	Applicant(s) BAHARAV ET AL.	
	Examiner Aung S. Moe	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-25 is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-17 and 20 is/are rejected.
- 7) ☐ Claim(s) 8-10, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/23/2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7, 11, 12, 13-17, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Nguyen (US 2002/0167602 A1).

Regarding claim 1, Nguyen '602 discloses a method of demosaicing (Fig. 1, the element 104) and resizing a mosaiced image (i.e., see Fig. 2A/2B) comprising:

receiving a current image block of said mosaiced image (i.e., noted the mosaiced image provided by the image capturing unit 102 as shown in Fig. 2A);

computing an indicator of said current image block based on color data of said current image block (i.e., as shown in Fig. 3, the demosaicing circuit 104 is capable of computing an indicator of the image block provided by the image capturing sensor 102; see page 3, paragraphs 0039+); and

generating a resized image block from said current image block of said mosaiced images (i.e., noted that the circuit 104 as shown in Fig. 3 is capable of generating a resized demosaiced image block from the original inputted mosaiced images. It is noted that the mosaic image is resized into image block by selecting 3x3, 5x5 and 7x7 blocks in the de-mosaic unit 104; see

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paragraphs 0077+ and 0099+) in response to said indicator to produce a resized image of said mosaiced image (i.e., as shown in Fig. 2A/2B; see paragraphs 0077+ and 0099+), including embedding selected color information from said current image block of said mosaiced image into said resized image block (i.e., as shown in Figs. 3-5, the selected color information of the originally inputted image is embedded into the resized demosaiced image by using the summing unit and the interpolators) such that said resized image of said mosaiced image is demosaiced (i.e., see Figs. 2A and 2B).

Regarding claim 2, Nguyen '602 discloses wherein said computing of said indicator of said current image block includes computing a statistical indicator (as shown in Figs. 4-5, the circuit 304 includes the variation magnitude analyzer 416 and 530 for computing the statistical indicator based on the intensity variations; see paragraphs 0053+ and 0062+) from said color data of said current image block (i.e., noted the image block inputted by the elements 302/102).

Regarding claim 3, Nguyen '602 discloses wherein said computing of said statistical indicator (Figs. 4 and 5, the elements 402/506) includes computing a variance from said color data of said current image block (i.e., noted the variation magnitude analyzer 415 and 530 as shown in Figs. 4 and 5), said variance being used as said statistical indicator (i.e., noted that the intensity variations computed by the circuit 402 and 506 are used as statistical indicator).

Regarding claim 4, Nguyen '602 discloses wherein said computing of said variance from said color data of said current image block includes computing said variance from values within said current image block for a particular color (i.e., noted that use of Green Color in the circuits 402 and 506 for computing of the intensity variations; see paragraph 0053+).

Regarding claim 5, Nguyen '602 discloses wherein said computing of said indicator of said current image block includes computing a feature-based indicator (i.e., noted the use of Gradient filters as shown in Figs. 4 and 5 for computing a feature-based indicator; see paragraphs 0048, 0055 and 0056+) from said color data of said current image block.

Regarding claim 6, Nguyen '602 discloses wherein said computing of said feature-based indicator includes computing a gradient (i.e., noted the use of gradient filters as shown in Figs. 4 and 5) from said color data of said current image block, said gradient being used as said feature-based indicator (i.e., see paragraphs 0048, 0055 and 0056+).

Regarding claim 7, Nguyen '602 discloses wherein said computing of said gradient from said color data of said current image block includes computing said gradient from values within said current image block for a particular color (i.e., noted the use of gradient filter for computing the gradient for a green color as shown in Figs. 4 and 5; see paragraphs 0048, 0055 and 0056+).

Regarding claim 11, Nguyen '602 discloses wherein said embedding of said selected color information from said current image block of said mosaiced image into said resized image block includes (i.e., noted the selected color image used in the demosaicing unit 104 as shown in Fig. 3) embedding the means (i.e., noted the use of interpolation and summing units for embedding the color values; see paragraphs 0075+) of color values within said current image block into said resized image block (i.e., noted the demosaiced image produced by the demosaicing unit 104).

Regarding claim 12, Nguyen '602 discloses where said generating of said resized image block from said current image block of said mosaiced image includes generating a pixel of said resized image from said current image block of said mosaiced image (i.e., noted the resized

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demosaiiced image used in the de-mosaic unit 104; see Figs. 2A/2B and 3; see paragraphs 0073+ and 0077+).

Regarding claim 13, Nguyen '602 discloses a system for demosaiicing (Fig. 1, the elements 104) and resizing a mosaiced image (Figs. 2A and 2B) comprising:

an image processing module (104) that receives a current image block of said mosaiced image, said image processing module being configured to generate a resized image block from said current image block of said mosaiced image to produce a resized image of said mosaiced image (i.e., as shown in Figs. 2B and 3, the demosaiicing unit 104 is capable of providing a resized demosaiiced image; paragraphs 0034+, 0039+, 0053+ and 0073+), said image processing module including:

an indicator computer (i.e., noted the indicator computing circuits 402 and 506 as shown in Figs. 4 and 5) that is configured to compute an indicator of said current image block based on color data of said current image block (i.e., the circuits 402 and 506 is configured to compute an indicator to control the selector circuits 406 and 508 based on the color data of the current image block inputted by the elements 102/302); and

a color inserter (i.e., the summing units 334/340 is configured to embed selected color information into resized image block as shown in Figs. 2B and 3; see paragraphs 0073+) that is configured to embed selected color information from said current image block of said mosaiced image (i.e., noted the mosaic image inputted by the capturing unit 102) into said resized image block (i.e., noted the resized image block by selecting 3x3, 5x5 and 7x7 blocks in the demosaiicing unit 104; see paragraphs 0077+ and 0099+) in response to said indicator (i.e., noted the indicator provided at steps 608 and 620 of Fig. 6 by the circuits 402 and 506) such that said

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resized image of said mosaiced image is demosaiced (i.e., noted the demosaiced image produced from the demosaicing unit 104).

Regarding claim 14, Nguyen '602 discloses wherein said indicator computer is configured to compute a statistical indicator from said color data (as shown in Figs. 4-5, the circuit 304 includes the variation magnitude analyzer 416 and 530 for computing the statistical indicator based on the intensity variations; see paragraphs 0053+ and 0062+) of said current image block (i.e., the original image block used by the observation window).

Regarding claim 15, Nguyen '602 discloses wherein said indicator computer is configured to compute a variance from said color data of said current image block (i.e., noted the variation magnitude analyzer 415 and 530 as shown in Figs. 4 and 5), said variance being used as said statistical indicator (i.e., noted that the intensity variations computed by the circuit 402 and 506 are used as statistical indicator).

Regarding claim 16, Nguyen '602 discloses wherein said indicator computer is configured to compute a feature-based indicator from said color data of said current image block (i.e., noted the use of Gradient filters as shown in Figs. 4 and 5 for computing a feature-based indicator; see paragraphs 0048, 0055 and 0056+).

Regarding claim 17, Nguyen '602 discloses wherein said indicator computer is configured to compute a gradient from said color data of said current image block (i.e., noted the use of gradient filters as shown in Figs. 4 and 5), said gradient being used as said feature-based indicator (i.e., see paragraphs 0048, 0055 and 0056+).

Regarding claim 20, Nguyen '602 discloses wherein said color inserter is configured to embed the means (i.e., noted the summing units 334 and 340 for embedding the color values) of

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color values within said current image block into said resized image block (i.e., noted the resized demosaiced image used in the de-mosaic unit 104; see Figs. 2A/2B and 3; see paragraphs 0073+ and 0077+).

Allowable Subject Matter

3. Claims 8-10 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 21-25 are allowable over the prior of record.

Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Keshet '309, Keshet '309, Addison '950, Acharya '578, Hel-or '918, Howell '772, Taubman '796, Jones '583 discloses a system and method for demosaicing the mosaic image captured by the imaging device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aung S. Moe whose telephone number is 703-306-3021. The examiner can normally be reached on Mon-Fri (9-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Aung S. Moe
Primary Examiner
Art Unit 2612

A. Moe
September 7, 2004